

# SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

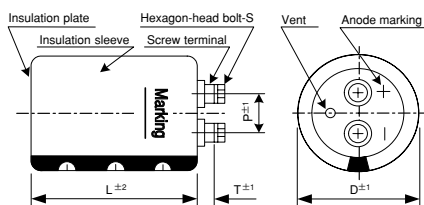
## HCGF5A Series

Useful of 4,000 hours at 85°C (Warranty of 2,000 hours at 85°C)

- Conform RoHS

### Features

- Standard products.



(unit : mm)

φ D	P	S	T	Cap material
36	12.7	M5×10	7.0	PPS
51	22.0	M5×10	4.5	PPS
64	28.6	M5×10	4.5	PPS
77	32.0	M5×10	4.5	PPS
90	32.0	M5×10	4.0	PPS

### Product Specifications

Items	Specifications
Temperature range	-25°C ~ +85°C
Rated voltage	160 ~ 450V.DC
Capacitance tolerance	±20% (20°C, 120Hz)
Leakage current	0.01CV (μA) or 5 mA, whichever is smaller or less(20°C, after 5 minutes) [C = nominal capacitance (μF), V = rated voltage (V)]
Dissipation factor	Less than the value specified in the standard products table. (20°C,120Hz)
Permissible ripple current	As specified in the standard products table. (40°C,120Hz)
High-temperature load	After the rated voltage with specified ripple current is applied at 85°C for 2000 hours: Capacitance tolerance: ±15% or less of the initial value Dissipation factor: 175% or less of the specified initial value Leakage current: Specified initial value or less
Others	JIS C 5101-4.

### Ripple current correction coefficient

Temperature (°C)	40	60	70	85	
Correction coefficient	1.0	0.75	0.62	0.37	
Frequency (Hz)	50/60	120	300	1k	≥10k
Correction coefficient	0.7	1.0	1.1	1.3	1.4

Terminal permissible currents: 60Arms for M5.

Please use this type of capacitor at a terminal current below the permissible.

### Bracket

- See page 21, 22 for shapes and dimensions.
- Product names in the Standard Products Table correspond to the bracket for Type Y (Type I for ø36 only), but Type I bracket may be used (Type of bracket Code = I).
- If bracket are not necessary, enter "N" for the type of bracket code.
- Bracket will be delivered separately.

Product code : (Example) HCGF5A Series A case 400V 10,000μF ±20%

**HCGF5 A 2G 103 Y**

Type of series

Type of bracket code  
Capacitance code  
Rated voltage code  
Terminal code A (screw)

### Standard Products Table

Rated Voltage (V. DC)	Capacitance (μF)	Case size øDXL(mm)	tanδ 20°C,120Hz	Ripple current 40°C,120Hz (Arms)	ESR(typ.) 20°C,100Hz (mΩ)	Z max 20°C,10kHz (mΩ)	ESL(typ.) (nH)	Product name
160	3300	36×121	0.25	14.0	40	35	18	HCGF5A2C332I
	3900	51×75	0.25	14.4	37	28	21	HCGF5A2C392Y
	4700	51×75	0.25	15.8	30	25	21	HCGF5A2C472Y
	5600	51×96	0.25	19.0	26	23	21	HCGF5A2C562Y
	6800	51×96	0.25	21.0	22	22	21	HCGF5A2C682Y
	8200	51×115	0.25	24.7	18	19	21	HCGF5A2C822Y
	10000	64×96	0.25	28.0	15	16	22	HCGF5A2C103Y
	12000	64×96	0.25	30.6	12	15	22	HCGF5A2C123Y
	15000	64×130	0.25	38.6	11	12	22	HCGF5A2C153Y
	18000	64×130	0.25	42.2	9	11	22	HCGF5A2C183Y
	22000	77×130	0.25	49.4	8	8	24	HCGF5A2C223Y
	27000	77×130	0.25	54.7	7	8	24	HCGF5A2C273Y
	33000	90×131	0.25	64.2	6	7	24	HCGF5A2C333Y
39000	90×157	0.25	75.3	5	7	24	HCGF5A2C393Y	
200	2200	36×100	0.25	10.6	68	60	18	HCGF5A2D222I
	2700	36×121	0.25	12.7	48	39	18	HCGF5A2D272I
	3300	51×75	0.25	13.3	45	35	21	HCGF5A2D332Y
	3900	51×75	0.25	14.4	37	30	21	HCGF5A2D392Y
	4700	51×96	0.25	17.4	30	27	21	HCGF5A2D472Y
	5600	51×115	0.25	20.4	26	25	21	HCGF5A2D562Y
	6800	51×130	0.25	23.7	21	20	21	HCGF5A2D682Y
	8200	64×96	0.25	25.4	17	18	22	HCGF5A2D822Y
	10000	64×96	0.25	28.0	14	14	22	HCGF5A2D103Y
	12000	77×96	0.25	32.6	12	14	24	HCGF5A2D123Y
	15000	77×96	0.25	39.0	10	13	24	HCGF5A2D153Y
	18000	77×130	0.25	44.6	8	12	24	HCGF5A2D183Y
	22000	77×155	0.25	53.0	7	7	24	HCGF5A2D223Y
	27000	90×131	0.25	58.2	6	7	24	HCGF5A2D273Y
	33000	90×157	0.25	69.0	5	7	24	HCGF5A2D333Y

# SCREW TERMINAL TYPE ALUMINUM ELECTROLYTIC CAPACITORS

ALUMINUM ELECTROLYTIC CAPACITORS

Rated Voltage (V. DC)	Capacitance ( $\mu$ F)	Case size $\phi$ DXL(mm)	$\tan\delta$ 20°C, 120Hz	Ripple current 40°C, 120Hz (Arms)	ESR(typ.) 20°C, 100Hz (m $\Omega$ )	Z max 20°C, 10kHz (m $\Omega$ )	ESL(typ.) (nH)	Product name
250	1500	36X100	0.25	8.7	56	50	18	HCGF5A2E152I
	1800	36X100	0.25	9.5	52	44	18	HCGF5A2E182I
	2200	51X75	0.25	10.8	50	40	21	HCGF5A2E222Y
	2700	51X75	0.25	12.0	41	36	21	HCGF5A2E272Y
	3300	51X96	0.25	14.6	36	35	21	HCGF5A2E332Y
	3900	51X115	0.25	17.0	31	30	21	HCGF5A2E392Y
	4700	64X96	0.25	19.2	25	23	22	HCGF5A2E472Y
	5600	64X96	0.25	21.0	21	21	22	HCGF5A2E562Y
	6800	64X115	0.25	24.7	18	18	22	HCGF5A2E682Y
	8200	64X115	0.25	27.1	15	16	22	HCGF5A2E822Y
	10000	64X130	0.25	31.5	12	14	22	HCGF5A2E103Y
	12000	77X115	0.25	34.8	10	11	24	HCGF5A2E123Y
	15000	77X130	0.25	40.8	8	11	24	HCGF5A2E153Y
18000	77X155	0.25	47.8	7	10	24	HCGF5A2E183Y	
22000	90X157	0.25	56.5	6	8	24	HCGF5A2E223Y	
350	390	36X53	0.20	4.5	287	296	18	HCGF5A2V391I
	470	36X83	0.20	5.8	238	245	18	HCGF5A2V471I
	560	36X83	0.20	6.4	216	222	18	HCGF5A2V561I
	680	36X83	0.20	7.0	192	197	18	HCGF5A2V681I
	820	36X100	0.20	8.3	170	174	18	HCGF5A2V821I
	1000	36X100	0.20	9.2	131	135	18	HCGF5A2V102I
	1200	51X75	0.20	10.3	117	120	21	HCGF5A2V122Y
	1500	51X75	0.20	11.5	93	100	21	HCGF5A2V152Y
	1800	51X96	0.20	13.9	78	80	21	HCGF5A2V182Y
	2200	51X96	0.20	15.4	64	70	21	HCGF5A2V222Y
	2700	51X130	0.20	19.3	53	58	21	HCGF5A2V272Y
	3300	51X130	0.20	21.4	48	51	21	HCGF5A2V332Y
	3900	64X115	0.20	24.2	43	47	22	HCGF5A2V392Y
	4700	64X130	0.20	27.9	36	40	22	HCGF5A2V472Y
	5600	77X115	0.20	30.7	34	35	24	HCGF5A2V562Y
	6800	77X130	0.20	35.4	28	29	24	HCGF5A2V682Y
	8200	77X155	0.20	41.7	23	25	24	HCGF5A2V822Y
10000	90X157	0.20	49.0	19	23	24	HCGF5A2V103Y	
12000	90X157	0.20	54.1	16	21	24	HCGF5A2V123Y	
15000	90X196	0.20	66.2	13	20	24	HCGF5A2V153Y	
18000	90X236	0.20	77.9	10	20	24	HCGF5A2V183Y	
400	330	36X53	0.20	4.1	428	440	18	HCGF5A2G331I
	390	36X83	0.20	5.3	362	372	18	HCGF5A2G391I
	470	36X83	0.20	5.8	301	310	18	HCGF5A2G471I
	560	36X83	0.20	6.4	253	260	18	HCGF5A2G561I
	680	36X100	0.20	7.6	209	214	18	HCGF5A2G681I
	820	36X100	0.20	8.3	173	177	18	HCGF5A2G821I
	1000	51X75	0.20	9.4	140	150	21	HCGF5A2G102Y
	1200	51X75	0.20	10.3	117	125	21	HCGF5A2G122Y
	1500	51X96	0.20	12.7	100	108	21	HCGF5A2G152Y
	1800	51X96	0.20	13.9	88	90	21	HCGF5A2G182Y
	2200	51X130	0.20	17.4	68	75	21	HCGF5A2G222Y
	2700	64X96	0.20	18.8	59	66	22	HCGF5A2G272Y
	3300	64X115	0.20	22.2	48	53	22	HCGF5A2G332Y
	3900	64X130	0.20	25.4	43	48	22	HCGF5A2G392Y
	4700	77X115	0.20	28.2	36	41	24	HCGF5A2G472Y
	5600	77X130	0.20	32.2	32	37	24	HCGF5A2G562Y
	6800	77X155	0.20	38.0	26	30	24	HCGF5A2G682Y
	8200	90X157	0.20	44.4	22	26	24	HCGF5A2G822Y
	10000	90X157	0.20	49.4	19	23	24	HCGF5A2G103Y
12000	90X196	0.20	59.1	16	21	24	HCGF5A2G123Y	
15000	90X236	0.20	71.1	15	21	24	HCGF5A2G153Y	

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Rated Voltage (V. DC)	Capacitance (μF)	Case size øDXL(mm)	tanδ 20°C,120Hz	Ripple current 40°C,120Hz (Arms)	ESR(typ.) 20°C,100Hz (mΩ)	Z max 20°C,10kHz (mΩ)	ESL(typ.) (nH)	Product name
450	270	36×53	0.20	3.7	482	496	18	HCGF5A2W271I
	330	36×83	0.20	4.9	295	406	18	HCGF5A2W331I
	390	36×83	0.20	5.3	334	343	18	HCGF5A2W391I
	470	36×83	0.20	5.8	277	284	18	HCGF5A2W471I
	560	36×100	0.20	6.9	232	238	18	HCGF5A2W561I
	680	36×100	0.20	7.6	191	196	18	HCGF5A2W681I
	820	51×75	0.20	8.6	182	187	21	HCGF5A2W821Y
	1000	51×75	0.20	9.4	149	154	21	HCGF5A2W102Y
	1200	51×96	0.20	11.4	124	129	21	HCGF5A2W122Y
	1500	51×115	0.20	13.7	107	108	21	HCGF5A2W152Y
	1800	51×130	0.20	15.8	93	100	21	HCGF5A2W182Y
	2200	64×96	0.20	17.0	77	84	22	HCGF5A2W222Y
	2700	64×115	0.20	20.2	62	69	22	HCGF5A2W272Y
	3300	64×130	0.20	23.4	54	61	22	HCGF5A2W332Y
	3900	77×115	0.20	25.6	46	51	24	HCGF5A2W392Y
	4700	77×130	0.20	29.4	38	43	24	HCGF5A2W472Y
	5600	77×155	0.20	34.6	32	37	24	HCGF5A2W562Y
6800	90×157	0.20	40.5	28	33	24	HCGF5A2W682Y	
8200	90×157	0.20	44.6	25	30	24	HCGF5A2W822Y	
10000	90×196	0.20	53.9	20	25	24	HCGF5A2W103Y	
12000	90×236	0.20	63.8	16	22	24	HCGF5A2W123Y	

## Life time graph

Useful life depending on ambient temperature  $T_a$  and ripple current operating conditions  $I_r$  versus rated ripple current at 40°C, 120Hz

